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FOGG AND ASSOCIATES, LLC
P.O. BOX 581339
MINNEAPOLIS, MN 55458-1339

EXAMINER	
TRUJILLO, JAMES K	

ART UNIT	PAPER NUMBER
2116	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/993,320	LEWIS ET AL.	
	Examiner	Art Unit	
	James K. Trujillo	2116	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 January 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-81* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-81* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 November 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *04052002*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The office acknowledges the receipt of the following and placed of record in the file: Response to Election/Restriction Filed 01/10/2005.

2. Upon further consideration the examiner has withdrawn the previous election/restriction requirement.

3. Claims 1-81 are presented for examination.

Drawings

4. The drawings are objected to because suitable descriptive legends should be used for understanding of the drawings especially figure 2A. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

5. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the sending and receiving a device ID, selecting firmware at a device, and downloading firmware to another device must be shown or the feature(s) canceled from the claim(s). Specifically, the drawings show only structure. The claimed functionality in the claims appears to be essential and should be shown in the drawings for proper understanding of the invention. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

6. Claims 13-18, 43, 45 and 46 are objected to because of the following informalities:

a. Regarding claim 13:

i. on line 4, "the" should precede "one", to particularly point out the claimed invention, that is that communication devices are the "associated communication devices" recited in lines 2 and 3.

ii. on lines 4, 6, and 8 "associated" should precede "communication", to particularly point out the claimed invention, that is that communication devices are the "associated communication devices" recited in lines 2 and 3.

b. Regarding claims 15-18, similar corrections should be made to claims 15-18 as in claim 13.

c. Further regarding claim 18, on line 3 of the claim, "programs" should be changed to "routines" because it currently lacks proper antecedent basis.

d. Regarding claim 43, on lines 3 and 4 of the claim, the text following "firmware" should be removed or the claim rewritten for purposes of clarity. It appears the applicants attempting to claim non-volatile media that stores the downloaded firmware.

e. Regarding claim 45, on line 1 of the claim, "storage device" should be changed to "storage media" to prevent lack of antecedent basis.

f. Regarding claim 46, on line 1 of the claim, "storage device" should be changed to "storage media" to prevent lack of antecedent basis.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

8. Claims 13, 15, 17-19, 27-29, 32, 41-44, 48, 50, 63-65, 67, 75-77 and 79-80 are rejected under 35 U.S.C. 102(e) as being anticipated by Ha, U.S. Patent 6,175,919.

9. Regarding claim 13, Ha teaches a method of operating a communications management device (Host computer, figure 4), comprising initializing one or more associated communication devices from routines stored on a boot PROM (BIOS ROMs, FR1-FR2, figure 4) of each of the one or more associated communication devices (figure 2, wherein PC1-PCn are associated communication devices figure 4, and a plurality of computers are upgraded, col. 5 lines 25-30). Ha also teaches receiving a device ID from each of one or more communication devices. Ha also teaches receiving a device ID from each of the one or more communication devices (each device transfers a model ID to the host computer, col. 4, lines 50-53 and col. 5, lines 15-16). Ha further teaches selecting a software program (BIOS) associated with the device ID of each of the one or

more communication devices (col. 4, lines 54-60). Ha further teaches downloading the software program associated with the device ID to each of the one or more associated communication devices (BIOS is transferred to the communication devices, col. 4, lines 57-60 and col. 5, line 19-24).

10. Regarding claim 15, Ha taught the method according to claim 13, as described above. Ha further teaches wherein receiving a device ID from each of the one or more associated communication devices further comprises receiving a device ID that identifies the communication model (col. 4, lines 50-53 and col., lines 15-16).

11. Regarding claim 17, Ha taught the method according to claim 13, as described above. Ha teaches wherein receiving a device ID from each of the one or more associated communication devices further comprises receiving a device ID that identifies the software program for the communication device (BIOS is downloaded to the communication devices that corresponds to the ID, col. 4, lines 50-57).

12. Regarding claim 18, Ha taught the method according to claim 13, as described above. Ha further teaches wherein receiving a device ID fro each of the one or more communication devices further comprises receiving a device ID that uniquely identifies one or more software routines for the communication device (BIOS is downloaded to the communication devices that corresponds to the ID, BIOS contains one or more software routines for operating devices, col. 4, lines 54-60).

13. Regarding claim 19, Ha taught the method according to claim 13, as described above. Ha further teaches updating a store of firmware (on the HDD) at the communications management device (col. 4, lines 20-27 and col. 4, lines 41-53). Specifically, Ha teaches that the

communications management device is used to update (upgrade) the communication devices when requested. It would necessitate that the store of firmware at the communications management device of Ha would need to be updated. If the store of firmware in Ha were not updated the management device of Ha would only be able to perform an update only once and this is not suggested in Ha.

14. Regarding claim 27, Ha teaches a method of operating a communications system comprising initializing one or more associated communication devices from routines stored on a boot PROM (FR1-FR2, figure 4) of each of the one or more associated communication devices (BIOS ROM, figure 2, wherein PC1-PCn are associated communication devices figure 4, and a plurality of computers are upgraded, col. 5 lines 25-30). Ha also teaches receiving a device ID from each of one or more communication devices at a management device (HOST computer, figure 4 and figure 6). Ha also teaches receiving a device ID from each of the one or more communication devices (each device transfers a model ID to the host computer, col. 4, lines 50-53 and col. 5, lines 15-16). Ha further teaches selecting a software program (BIOS) associated with the device ID of each of the one or more communication devices (col. 4, lines 54-60). Ha further teaches downloading the software program associated with the device ID to each of the one or more associated communication devices (col. 4, lines 57-60 and col. 5, line 19-24).

15. Regarding claim 28, Ha taught the method according to claim 27, as described above. Ha further teaches storing the downloaded software program into a RAM memory of each of the one or more communication devices. Ha further teaches a RAM memory coupled to the processor, where the processor stores the downloaded firmware into the RAM memory. Specifically, Ha describes downloading firmware using a floppy disk, while the computer is normal operation,

and while the computer is booting. Ha teaches that during the download of firmware from a floppy disk the firmware is downloaded into the RAM of the communication device. Ha describes that during the download of firmware during a boot that firmware is downloaded into "memory". This memory is interpreted to be RAM memory because is not the BIOS ROM, no mention of using the system ROM 11 is suggested. Therefore, downloading software from any source in Ha would follow that the same procedure would be done as taught by the download using a floppy disk. Also, figure shows that the RAMs are the only memories of the communication devices (PC1-PCn) connected to the communication port, implying that the RAM memories would receive the downloaded firmware. Thus, Ha teaches storing the download firmware into a RAM memory.

16. Regarding claim 29, Ha taught the method according to claim 27, as described above. Ha further taught storing the downloaded software program into a non-volatile machine usable storage media of each of the one or more communication devices (written into the BIOS ROM, col. 5, lines 20-24).

17. Regarding claim 32, Ha taught the method according to claim 27, as described above. Ha further teaches updating a repository of software programs stored on the management device (col. 4, lines 20-27 and col. 4, lines 41-53). Specifically, Ha teaches that the communications management device is used to update (upgrade) the communication devices when requested. It would necessitate that the store of firmware at the communications management device of Ha would need to be updated. If the store of firmware in Ha were not updated the management device of Ha would only be able to perform an update only once and this is not suggested in Ha.

18. Regarding claim 41, Ha teaches a network system comprising a management device (Host computer figure 4), at least one communication device (PC1-PCn) and further comprising a boot PROM (BIOS ROM, figure 2), a communications interface (communications ports, figure 2), a device ID storage media (not explicitly shown but must exist to store model ID that is obtained from the communications device of Ha, col. 4, lines 50-53 and col. 5, lines 15-16). Ha further teaches a processor (CPU such as that of PC1, figure 4) coupled to the boot prom, the device ID storage media (necessary in order to obtain the device id), and the communications interface (logically coupled to the communications port through the RAM, figure 4). Ha also teaches where the processor utilizes a device ID (obtain a model ID, col. 4, lines 50-53 and col. 5, lines 15-16) read from the device ID storage media and routines from the boot PROM (during a POST routine of the BIOS, col. 5, lines 5-11) to select and download a firmware program for the device through the communications interface (ports, figure 5).

19. Regarding claim 42, Ha taught the communications device according to claim 41, as described above. Ha further teaches a RAM memory coupled to the processor, where the processor stores the downloaded firmware into the RAM memory. Specifically, Ha describes downloading firmware using a floppy disk, while the computer is normal operation, and while the computer is booting (col. 3, lines 46-64). Ha teaches that during the download of firmware from a floppy disk the firmware is downloaded into the RAM (main memory) of the communication device. Ha also describes that during a network download of firmware during a boot that firmware is downloaded into "memory" (col. 5, lines 17-19). Also, figure shows that the RAMs are the only memories of the communication devices (PC1-PCn) connected to the

communication port, implying that the RAM memories would receive the downloaded firmware. Thus, Ha teaches storing the download firmware into a RAM memory.

20. Regarding claim 43, Ha taught the device according to claim 41, as described above. Ha further taught a non-volatile machine usable storage media coupled to the processor where the processor stores the downloaded firmware (written into the BIOS ROM, col. 5, lines 20-24).

21. Regarding claim 44, Ha taught the device according to claim 43, as described above. Ha further teaches wherein the non-volatile machine usable storage media is selected from the group consisting of a flash memory device, an electrically erasable programmable read only memory (EEPROM) device, and a one time programmable (OTP) device (a flash memory device, col. 3, lines 60-61).

22. Regarding claim 48, Ha taught the device according to claim 41, as described above. Ha further teaches wherein the boot PROM is selected from the group consisting of a flash memory device, an electrically erasable programmable read only memory (EEPROM) device, and a one time programmable (OTP) device (a flash memory device, col. 3, lines 60-61).

23. Regarding claim 50, Ha taught the device according to claim 41, as described above. Ha further teaches wherein downloading firmware comprises downloading diagnostic software (BIOS is upgraded, col. 5, lines 17-24). Specifically, the BIOS is upgraded. BIOS contains a POST routine which is diagnostic software that tests a communication device.

24. Regarding claims 63-65 and 67, they are rejected for the same reasons as set forth in the rejection of claims 41-43 and 50.

25. Regarding claim 75, Ha teaches a machine-usable medium having machine-readable instructions stored thereon for execution by a processor of a telecommunications management

device to perform the method comprising initializing one or more associated telecommunication devices from routines stored on a boot PROM (FR1-FR2, figure 4) of each of the one or more associated telecommunication devices (BIOS ROM, figure 2, wherein PC1-PCn are associated telecommunication devices figure 4, and a plurality of computers are upgraded, col. 5 lines 25-30). Ha also teaches receiving a device ID from each of one or more telecommunication devices at a telecommunications management device (HOST computer, figure 4 and figure 6). Ha also teaches receiving a device ID from each of the one or more telecommunication devices (each device transfers a model ID to the host computer, col. 4, lines 50-53 and col. 5, lines 15-16). Ha further teaches selecting a software program (BIOS) associated with the device ID of each of the one or more communication devices (col. 4, lines 54-60). Ha further teaches downloading the software program associated with the device ID to each of the one or more associated telecommunication devices (col. 4, lines 57-60 and col. 5, line 19-24).

26. Regarding claim 76, Ha taught the method according to claim 75, as described above. Ha further teaches wherein downloading firmware comprises downloading diagnostic software (BIOS is upgraded, col. 5, lines 17-24). Specifically, the BIOS is upgraded. BIOS contains a POST routine which is diagnostic software that tests a communication device.

27. Regarding claim 77, Ha taught the method according to claim 75, as described above. Ha further teaches updating a repository of software programs stored on the management device (col. 4, lines 20-27 and col. 4, lines 41-53). Specifically, Ha teaches that the telecommunications management device is used to update (upgrade) the telecommunication devices when requested. It would necessitate that the store of firmware at the telecommunications management device of

Ha would need to be updated. If the store of firmware in Ha were not updated the management device of Ha would only be able to perform an update only once and this is not suggested in Ha.

28. Regarding claim 79, Ha taught the method according to claim 75, as described above. Ha further teaches storing the downloaded software program into a RAM memory of each of the one or more telecommunication devices. Ha further teaches a RAM memory coupled to the processor, where the processor stores the downloaded firmware into the RAM memory. Specifically, Ha describes downloading firmware using a floppy disk, while the computer is normal operation, and while the computer is booting. Ha teaches that during the download of firmware from a floppy disk the firmware is downloaded into the RAM of the telecommunication device. Ha describes that during the download of firmware during a boot that firmware is downloaded into "memory". This memory is interpreted to be RAM memory because is not the BIOS ROM, no mention of using the system ROM 11 is suggested. Therefore, downloading software from any source in Ha would follow that the same procedure would be done as taught by the download using a floppy disk. Also, figure shows that the RAMs are the only memories of the telecommunication devices (PC1-PCn) connected to the communication port, implying that the RAM memories would receive the downloaded firmware. Thus, Ha teaches storing the download firmware into a RAM memory.

29. Regarding claim 80, Ha taught the method according to claim 27, as described above. Ha further taught storing the downloaded software program into a non-volatile machine usable storage media of each of the one or more telecommunication devices (written into the BIOS ROM, col. 5, lines 20-24).

Claim Rejections - 35 USC § 103

30. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

31. Claims 33, 45-47 and 78 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ha.

32. Regarding claim 33, Ha taught the device according to claim 32, as described above. Ha does not disclose wherein the repository of software programs is updated remotely across a communications link of the communications system. Ha only teaches that the repository is updated.

The examiner takes official notice of updating software across a communications link of the communication system. It is well known to those of ordinary skill in the art that software updated remotely across a communications link provides the advantage of being faster to update. Specifically, no extra media such as floppy disks, CDs, or the like are needed to be sent to remote locations for software updates, which takes time to transport. Software would be available virtually instantaneously over a communications network.

It would have been obvious to one of ordinary skill in the art, having the teachings of Ha and the knowledge of updating software remotely across a communications link before them at the time the invention was made, to modify the system of Ha by updating his repository remotely over a communication link of the communication system.

One of ordinary skill in the art would have been motivated to make the modification for the purposes of being able to update the repository of Ha faster as those of ordinary skill understand and appreciate.

33. Regarding claim 45, Ha taught the device according to claim 41, as described above. Ha does not disclose wherein the device ID storage media is permanently attached to the communications device.

The examiner takes official notice that it is well known in the art for storage media to be attached to a device either permanently or by a method in which the storage media is not permanently attached (a removable media). The method of attaching a storage media would not affect the functionality of the storage media in the system. Attaching a boot PROM in a permanent fashion has the advantage of being physically tamper resistant.

It would have been obvious to one of ordinary skill having the teachings of Ha and the well known knowledge that storage media may be permanently attached before him a the time the invention was made, to modify the device ID storage media of Ha by permanently attaching the boot PROM to the communication device as is well known in the art.

One of ordinary skill in the art would have been motivated to make the modification in order to make the communication device tamper resistant.

34. Regarding claim 46, Ha taught the device according to claim 41, as described above. Ha does not explicitly disclose teaches wherein the device ID storage device is selected from the group consisting of a Flash memory, a read only memory (ROM), an electrically erasable programmable read only memory (EEPROM) device, and a one time programmable (OTP) device.

The examiner takes official notice of the means and motivation necessary in order to place information on a storage device such a Flash memory, a read only memory, an electrically erasable programmable read only memory device and a one time programmable device. These types of media are well known in the art and have the advantage of retaining information when power is turned off.

It would have been obvious to one ordinary skill in the art, having the teaching of Ha and the well known knowledge of a flash memory at the time the invention was made, to modify Ha by using a flash memory to store the device ID. Ha suggests that the device ID needs to be retained because it associated with a particular device.

One of ordinary skill in the art would have been motivated to use a flash memory because it has the advantage of retaining information when power is turned off and having the ability to be reprogrammed as necessary.

35. Regarding claim 47, Ha taught the communications device of claim 41, as described above. Ha does not disclose wherein the boot PROM is permanently attached to the communications device.

The examiner takes official notice that it is well known in the art for a boot PROM to be attached to a device either permanently or by a method in which the boot PROM is not permanently attached. Attaching a boot PROM in a permanent fashion has the advantage of being physically tamper resistant.

It would have been obvious to one of ordinary skill having the teachings of Ha and the well known knowledge that a boot PROM may be permanently attached before him a the time

the invention was made, to modify the boot PROM of Ha by permanently attaching the boot PROM to the communication device as is well known in the art.

One of ordinary skill in the art would have been motivated to make the modification in order to make the communication device tamper resistant.

36. Regarding claim 78, claim 78 is rejected for the same reasons applied accordingly as set forth in the rejection of claim 33.

37. Claims 1-5, 7, 10, 12, 16, 30, 69-73 and 81 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ha, U.S. Patent 6,175,919 in view of Itoh, U.S. Patent 6,795,912.

38. Regarding claim 1, Ha teaches a method of operating a communication device with a boot PROM (BIOS ROM 12, figure 1), comprising initializing the communication device (general computer system, figures 1 and 2) from routines stored on the boot PROM (col. 5, lines 5-16). Ha also teaches reading a device ID indicating a model from the communication device (col. 5, lines 15-16). Ha also teaches sending the device ID to a management (host computer) device over a communication link (col. 5, lines 15-16). Ha teaches selecting a firmware at the management device (col. 4, lines 54-57). Ha further teaches downloading the firmware to the communication device (col. 5, lines 17-19). Lastly, Ha teaches running the firmware on the communication device (by rebooting the computer, col. 5, lines 23-24).

Ha does not disclose wherein the device ID indicates a revision number from the communication device.

Itoh teaches wherein a device ID indicates a model number and a revision number (model number and version number of BIOS, col. 18, lines 36-42). The system of Itoh is similar to that

of Ha in that Itoh also teaches a system that updates firmware for a particular device. As taught by Itoh using both the model number and revision number provides the advantage of determining if the of the firmware is necessary.

It would have been obvious to one of ordinary skill in the art, having the teachings of Ha and Itoh before them at the time the invention was made, to modify the device ID of Ha to include revision number to obtain a device ID indicating a model and a revision number as taught the by Itoh.

One of ordinary skill in the art would have been motivated to make this modification in order to determine to if the update is necessary.

39. Regarding claim 2, Ha together with Itoh taught the method according to claim 1 as described above. Ha further teaches storing the downloaded firmware into a RAM memory (col. 3, lines 58-64, col. 4, lines 57-63, col. 5, lines 18-24 and figure 4). Specifically, Ha describes downloading firmware using a floppy disk, while the computer is normal operation, and while the computer is booting. Ha teaches that during the download of firmware from a floppy disk the firmware is downloaded into the RAM of the communication device. Ha describes that during the download of firmware during a boot that firmware is downloaded into "memory". This memory is interpreted to be RAM memory because is not the BIOS ROM, no mention of using the system ROM 11 is suggested. Therefore, downloading software from any source in Ha would follow that the same procedure would be done as taught by the download using a floppy disk. Also, figure shows that the RAMs are the only memories of the communication devices (PC1-PCn) connected to the communication port, implying that the RAM memories would

receive the downloaded firmware. Thus, Ha teaches storing the download firmware into a RAM memory.

40. Regarding claim 3, Ha together with Itoh taught the method according to claim 1 as described above. Ha further teaches storing the downloaded firmware into a non-volatile machine usable storage media (BIOS ROM, col. 5, lines 22-23).

41. Regarding claim 4, Ha together with Itoh taught the method according to 3 as described above. Ha further teaches wherein the non-volatile machine usable storage media is selected from the group consisting of a flash memory device, an electrically erasable programmable read only memory (EEPROM) device, and a one time programmable (OTP) device (a flash memory device, col. 3, lines 60-61).

42. Regarding claim 5, Ha together with Itoh taught method according to claim 3, as described above. Ha further taught wherein the boot PROM routines are stored on the non-volatile machine usable storage media (the POST routines of the BIOS are executed during the booting of the device, col. 5 lines 5-9).

43. Regarding claim 7, Ha together with Itoh taught the method according to claim 1, as described above. Itoh further teaches sending a version identifier of a stored firmware from a non-volatile machine usable storage media to the management device (version number is transmitted in order to receive a new BIOS, col. 18 lines 28-36).

44. Regarding claim 10, Ha together with Itoh taught the method according to 1 as described above. Ha further teaches wherein the boot PROM is selected from the group consisting of a flash memory device, an electrically erasable programmable read only memory (EEPROM) device, and a one time programmable (OTP) device (a flash memory device, col. 3, lines 60-61).

45. Regarding claim 12, Ha together with Itoh taught the method according to claim 1 as described above. Ha further teaches wherein downloading firmware comprises downloading diagnostic software (BIOS is upgraded, col. 5, lines 17-24). Specifically, the BIOS is upgraded. BIOS contains a POST routine, which is diagnostic software that tests a communication device.

46. Regarding claim 16, Ha taught the method according to claim 13 as described above. Ha further teaches wherein receiving a device ID from each of one or more communication devices further comprises receiving a device ID that identifies the communication device model (S51 and S64 in figures 5 and 6 respectively along with corresponding text).

Ha does not disclose wherein receiving a device ID form each of one or more communication devices further comprises receiving a device ID that identifies the revision.

Itoh teaches wherein a device ID indicates a model number and a revision number (model number and version number of BIOS, col. 18, lines 36-42). The system of Itoh is similar to that of Ha in that Itoh also teaches a system that updates firmware for a particular device. As taught by Itoh using both the model number and revision number provides the advantage of determining if the of the firmware is necessary thereby reducing any unnecessary downloads.

It would have been obvious to one of ordinary skill in the art, having the teachings of Ha and Itoh before them at the time the invention was made, to modify the device ID of Ha to include revision number to obtain a device ID indicating a model and a revision number as taught the by Itoh.

One of ordinary skill in the art would have been motivated to make this modification in order to determine to if the update is necessary thereby reducing any unnecessary downloads.

47. Regarding claim 30, Ha teaches the method according to claim 27, as described above. Ha teaches sending an identifier from a non-volatile machine usable storage media of each of the one or more communication devices to the management device. Ha does not disclose that the identifier is or has a ***version identifier of a stored software program*** [emphasis added].

Itoh teaches wherein a device ID indicates a model number and a revision number (model number and version number of BIOS, col. 18, lines 36-42). The system of Itoh is similar to that of Ha in that Itoh also teaches a system that updates firmware for a particular device. As taught by Itoh using both the model number and revision number provides the advantage of determining if the of the firmware is necessary thereby reducing any unnecessary downloads.

It would have been obvious to one of ordinary skill in the art, having the teachings of Ha and Itoh before them at the time the invention was made, to modify the device ID of Ha to include revision number to obtain a device ID indicating a model and a revision number as taught the by Itoh.

One of ordinary skill in the art would have been motivated to make this modification in order to determine to if the update is necessary thereby reducing any unnecessary downloads.

48. Regarding claim 69, Ha teaches a machine-usable medium having machine-readable instructions stored thereon for execution by a processor of a telecommunication device to perform a method comprising initializing the telecommunication device (general computer system, figures 1 and 2) from routines stored on the boot PROM (col. 5, lines 5-16). Ha also teaches reading a device ID indicating a model from the telecommunication device (col. 5, lines 15-16). Ha also teaches sending the device ID to a management (host computer) device over a communication link (col. 5, lines 15-16). Ha teaches selecting a firmware for the

telecommunications device at the management device (col. 4, lines 54-57). Ha further teaches downloading the firmware to the telecommunication device (col. 5, lines 17-19). Lastly, Ha teaches running the firmware on the telecommunication device (by rebooting the computer, col. 5, lines 23-24).

Ha does not disclose wherein the device ID indicates a revision number from the communication device.

Itoh teaches wherein a device ID indicates a model number and a revision number (model number and version number of BIOS, col. 18, lines 36-42). The system of Itoh is similar to that of Ha in that Itoh also teaches a system that updates firmware for a particular device. As taught by Itoh using both the model number and revision number provides the advantage of determining if the of the firmware is necessary thereby reducing any unnecessary downloads.

It would have been obvious to one of ordinary skill in the art, having the teachings of Ha and Itoh before them at the time the invention was made, to modify the device ID of Ha to include revision number to obtain a device ID indicating a model and a revision number as taught the by Itoh.

One of ordinary skill in the art would have been motivated to make this modification in order to determine to if the update is necessary thereby reducing any unnecessary downloads.

49. Regarding claims 70-73, Ha together with Itoh taught the claimed method of operating a communication device therefore he also teaches claimed machine-usable medium.

50. Regarding claim 81, Ha teaches a telecommunications device (one of PC1-PCn) having a boot PROM (BIOS ROMs FR1-FRn), a communications interface (communications port, figure 2), a device ID storage media (not explicitly shown but must exist to store model ID that is

obtained from the communications device of Ha, col. 4, lines 50-53 and col. 5, lines 15-16), and processor coupled to the boot PROM (CPU, figure 2), the device storage media (not shown but must exist in or for the device to obtained) and the communications interface (logically coupled, figure 2). Ha together with Itoh taught the claimed medium to perform the method, as in claim 69, therefore together they teach the method.

51. Claims 6, 8-9, 11 and 74 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ha and Itoh in view of Ishibashi et al., U.S. Patent 6,654,820.

52. Regarding claim 6, Ha together with Itoh taught the method according to claim 3 as described above. Ha further taught wherein the boot PROM routines are stored on the non-volatile machine usable storage media (the POST routines of the BIOS are executed during the booting of the device, col. 5 lines 5-9).

Neither Ha nor Itoh disclose wherein the device ID is stored on the non-volatile machine usable storage media.

Ishibashi teaches a device ID stored on a non-volatile machine usable storage media (the device ID is stored on a BIOS-ROM and managed by a BIOS, col. 6 lines 17-35 and figure 2). Ishibashi teaches a system that is similar to that of Ha in that both systems have a device ID and both use the BIOS for some type of management of the device ID. It appears that the feature of having the device ID stored on the BIOS provides the advantage of easy access to the device ID because the BIOS is used to control hardware. Further, the BIOS-ROM would maintain the information when power is removed.

It would have been obvious to one of ordinary skill in the art, having the teachings of Ha, Itoh and Ishibashi before them at the time the invention was made, to modify the BIOS-ROM of Ha to include storing the device ID.

One of ordinary skill in the art would have been motivated to make this modification in order provide easy access to the device ID. This would be especially true when modifying Ha because only the BIOS-ROM would need to be accessed when booting the computer rather than more than one other memory device holding the information reducing the number of reads during the process.

53. Regarding claim 8, Ha together with Itoh taught the method according to claim 1 as described above.

Neither Ha nor Itoh disclose wherein the device ID is read from the machine readable storage media.

Ishibashi teaches wherein a device ID is read from a machine readable storage media (the device ID can be obtained from a machine readable storage media "BIOS-ROM" and managed by a BIOS, col. 6 lines 46-54 and figure 2). Ishibashi teaches a system that is similar to that of Ha in that both systems have a device ID and both use the BIOS for some type of management of the device ID. It appears that the feature of having the device ID stored on the machine readable storage media "BIOS-ROM" provides the advantage of easy access to the device ID because the BIOS is used to control hardware. Further, the BIOS-ROM would maintain the information when power is removed.

It would have been obvious to one of ordinary skill in the art, having the teachings of Ha, Itoh and Ishibashi before them at the time the invention was made, to modify the machine

readable storage media of Ha to include reading the device ID from the machine readable storage media.

One of ordinary skill in the art would have been motivated to make this modification in order provide easy access to the device ID. This would be especially true when modifying Ha because only the machine readable storage media would need to be accessed when booting the computer rather than more than one other memory device holding the information reducing the number of read during the process.

54. Regarding claim 9, Ha together with Itoh taught the method according to 8 as described above. Ha further teaches wherein the ID storage device is selected from the group consisting of a flash memory device, an electrically erasable programmable read only memory (EEPROM) device, and a one time programmable (OTP) device (a flash memory device, col. 3, lines 60-61).

55. Regarding claim 11, it is rejected for the reasons set forth in the rejection of claim 6.

56. Regarding claims 74, Ha together with Itoh taught the claimed method of operating a communication device therefore he also teaches claimed machine-usable medium.

57. Claims 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ha in view of Treu, U.S. Patent 5,245,615.

58. Regarding claim 14, Ha taught the method according to claim 13, as described above. Ha does not disclose receiving a device ID that uniquely identifies the communication device.

Treu teaches a communication device (a personal computer 10, figure 1) having an ID that uniquely (system unique ID, col. 6, lines 51-55) identifies the communication device. Like Ha, the communication device of Treu is a personal computer. Also like Ha, Treu uses model

number for device identification. Treu further teaches having a device ID that uniquely identifies a communication device has the advantage of identifying the device for maintenance tracking and resource characteristics of functions associated with the communication device.

It would have been obvious to one of ordinary skill in the art, having the teachings of Ha and Treu before them at the time the invention was made, to modify the device ID of Ha to include a device ID that uniquely identifies the communication device as taught by Treu.

One of ordinary skill in the art would have been motivated to make the modification in order to achieve the advantage of identifying the device for maintenance tracking and resource characteristics of functions associated with the communications device.

59. Claims 31, 49 and 66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ha in view of Ishibashi et al., U.S. Patent 6,654,820.

60. Regarding claim 31, Ha taught the device according to claim 27, as described above. Ha does not disclose wherein the boot PROM and the device ID are stored on a single machine-readable storage medium.

Ishibashi teaches a device ID stored on a non-volatile machine usable storage media on which the boot PROM is also located (the device ID is stored on a BIOS-ROM and managed by a BIOS, col. 6 lines 17-35 and figure 2). Ishibashi teaches a system that is similar to that of Ha in that both systems have a device ID and both use the BIOS for some type of management of the device ID. It appears that the feature of having the device ID stored on the BIOS provides the advantage of providing fast and easy access to the device ID because the BIOS is the used to

control hardware and is the first firmware used when the activating the communication device. Further, the BIOS-ROM would maintain the information when power is removed.

It would have been obvious to one of ordinary skill in the art, having the teachings of Ha, Itoh and Ishibashi before them at the time the invention was made, to modify the BIOS-ROM of Ha to include storing the device ID.

One of ordinary skill in the art would have been motivated to make this modification in order provide easy access to the device ID. This would be especially true when modifying Ha because only the BIOS-ROM would need to be accessed when booting the computer rather than more than one other memory device holding the information reducing the number of reads during the process.

61. Regarding claims 49 and 66, they are rejected for the same reason as set forth hereinabove in the in rejection of claim 31.

62. Claims 20-22, 25-26, 57-59, 61-62 and 68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ha in view of Applicant's Admitted Prior Art (AAPA).

63. Regarding claim 20, Ha teaches a method with a management card (on the Host computer, figure 4) and at least one communication card (card on the personal computer, figure 4) comprising of operating a communications management device (Host computer, figure 4), comprising initializing one or more associated communication devices from routines stored on a boot PROM (FR1-FR2, figure 4) of each of the one or more associated communication devices (BIOS ROM, figure 2, wherein PC1-PCn are associated communication devices figure 4, and a plurality of computers are upgraded, col. 5 lines 25-30). Ha also teaches receiving a device ID

from each of one or more communication devices. Ha also teaches receiving a device ID from each of the one or more communication devices (each device transfers a model ID to the host computer, col. 4, lines 50-53 and col. 5, lines 15-16). Ha further teaches selecting a software program (BIOS) associated with the device ID of each of the one or more communication devices (col. 4, lines 54-60). Ha further teaches downloading the software program associated with the device ID to each of the one or more associated communication devices (col. 4, lines 57-60 and col. 5, line 19-24).

Ha does not disclose that the management card is with a rack chassis.

AAPA teaches that rack chassis are popular in network systems where multiple communication links end and provide the advantage of having density and central management capability of a line card chassis (paragraph 0003 and 0007).

It would have been obvious to one of ordinary skill in the art, having the teaching of Ha and AAPA before them at the time the invention was made, to modify Ha to be used in a rack chassis environment as taught by AAPA, wherein the system is a communications rack chassis.

One of ordinary skill would have made the modification because rack chassis are popular in network systems and provide the advantage of having density and central management.

64. Regarding claim 21, Ha taught the method according to claim 20, as described above. Ha further teaches storing the downloaded software program into a RAM memory of each of the one or more communication devices. Ha further teaches a RAM memory coupled to the processor, where the processor stores the downloaded firmware into the RAM memory. Specifically, Ha describes downloading firmware using a floppy disk, while the computer is normal operation, and while the computer is booting. Ha teaches that during the download of firmware from a

floppy disk the firmware is downloaded into the RAM of the communication device. Ha describes that during the download of firmware during a boot that firmware is downloaded into "memory". This memory is interpreted to be RAM memory because is not the BIOS ROM, no mention of using the system ROM 11 is suggested. Therefore, downloading software from any source in Ha would follow that the same procedure would be done as taught by the download using a floppy disk. Also, figure shows that the RAMs are the only memories of the communication devices (PC1-PCn) connected to the communication port, implying that the RAM memories would receive the downloaded firmware. Thus, Ha teaches storing the download firmware into a RAM memory.

65. Regarding claim 22, Ha taught the method according to claim 20, as described above. Ha further taught storing the downloaded software program into a non-volatile machine usable storage media of each of the one or more communication devices (written into the BIOS ROM, col. 5, lines 20-24).

66. Regarding claim 25, Ha taught the method according to claim 20, as described above. Ha further teaches updating a repository of software programs stored on the management device (col. 4, lines 20-27 and col. 4, lines 41-53). Specifically, Ha teaches that the communications management device is used to update (upgrade) the communication devices when requested. It would necessitate that the store of firmware at the communications management device of Ha would need to be updated. If the store of firmware in Ha were not updated the management device of Ha would only be able to perform an update only once and this is not suggested in Ha. Ha does expressly disclose wherein the repository is on a management card. Specifically, Ha discloses that repository is on the management device as a hard disk drive. The examiner takes

official notice that other memory devices such as flash memory may be used in place of hard disk drive. Flash memory has the advantage of using less power and is more reliable than a hard disk drive and would be small enough to fit on a card. It would have been obvious to one of ordinary skill in the art having the teachings of Ha and the well known use of flash memory at the time the invention was made, to modify Ha by using flash memory on the management card in place of the hard disk drive. One of ordinary skill would have been motivated to make this modification because the flash memory uses less power and is more reliable than a hard disk drive.

67. Regarding claim 26, Ha taught the device according to claim 25, as described above. Ha does not disclose wherein the repository of software programs is updated remotely across a communications link of the communications system. Ha only teaches that the repository is updated.

The examiner takes official notice of updating software across a communications link of the communication system. It is well known to those of ordinary skill in the art that software updated remotely across a communications link provides the advantage of being faster to update. Specifically, no extra media such as floppy disks, CDs, or the like are needed to be sent to remote locations for software updates, which takes time to transport. Software would be available virtually instantaneously over a communications network.

It would have been obvious to one of ordinary skill in the art, having the teachings of Ha and the knowledge of updating software remotely across a communications link before them at the time the invention was made, to modify the system of Ha by updating his repository remotely over a communication link of the communication system.

One of ordinary skill in the art would have been motivated to make the modification for the purposes of being able to update the repository of Ha faster as those of ordinary skill understand and appreciate.

68. Regarding claims 57-59, Ha together with AAPA taught the claimed method that uses the claimed apparatus therefore together they teach the claimed rack chassis.

69. Regarding claim 61, Ha together with AAPA taught the claimed rack chassis Ha further teaches wherein downloading firmware comprises downloading diagnostic software (BIOS is upgraded, col. 5, lines 17-24). Specifically, the BIOS is upgraded. BIOS contains a POST routine, which is diagnostic software that used to test the communication device.

70. Regarding claim 62, Ha together with AAPA taught the claimed rack chassis Ha further teaches wherein downloading firmware comprises downloading diagnostic software (BIOS is upgraded, col. 5, lines 17-24). Specifically, the BIOS is upgraded. BIOS contains a POST routine, which is diagnostic software that used to test the communication device. Thus, the communications rack chassis as described above is a diagnostic rack chassis.

71. Regarding claim 68, Ha taught the network system according to claim 63, as described above. Ha further teaches wherein the downloaded firmware is diagnostic firmware (BIOS is upgraded, col. 5, lines 17-24). Specifically, the BIOS is upgraded. BIOS contains a POST routine which is diagnostic software that tests a communication device.

Ha does not disclose wherein the network system is a diagnostics rack chassis.

AAPA teaches that rack chassis are popular in network systems where multiple communication links end and provide the advantage of having density and central management capability of a line card chassis (paragraph 0003 and 0007).

It would have been obvious to one of ordinary skill in the art, having the teaching of Ha and AAPA before them at the time the invention was made, to modify Ha to be used in a rack chassis environment as taught by AAPA to obtain a network system that is a diagnostic rack chassis.

One of ordinary skill would have made the modification because rack chassis are popular in network systems and provide the advantage of having density and central management.

72. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ha and Applicant's Admitted Prior Art (AAPA) in further view of Itoh.

73. Regarding claim 23, Ha together with AAPA taught the method according to claim 20, as described above.

Ha does not disclose sending a version identifier of stored firmware from a non-volatile machine usable storage media of each of the at leas one communication card to the management card.

Itoh teaches sending a version identifier of stored firmware from a non-volatile machine usable storage media of each of the at leas one communication card to the management card (model number and version number of BIOS, col. 18, lines 36-42). The system of Itoh is similar to that of Ha in that Itoh also teaches a system that updates firmware for a particular device. As taught by Itoh using both the model number and revision number provides the advantage of determining if the of the firmware is necessary thereby reducing unnecessary downloads.

It would have been obvious to one of ordinary skill in the art, having the teachings of Ha and Itoh before them at the time the invention was made, to modify Ha to send a version identifier to the management card as taught the by Itoh.

One of ordinary skill in the art would have been motivated to make this modification in order to determine to if the update is necessary thereby reducing unnecessary downloads.

74. Claims 24 and 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ha and Applicant's Admitted Prior Art (AAPA) in further view Ishibashi.

75. Regarding claim 24, Ha together with AAPA taught the method according to claim 20 as set forth hereinabove. Ha together AAPA do not disclose wherein the boot PROM and the device ID are stored on a single machine readable storage medium of each of the at least one communication card.

Ishibashi teaches a device ID stored on a non-volatile machine usable storage media on which the boot PROM is also located (the device ID is stored on a BIOS-ROM and managed by a BIOS, col. 6 lines 17-35 and figure 2). Ishibashi teaches a system that is similar to that of Ha in that both systems have a device ID and both use the BIOS for some type of management of the device ID. It appears that the feature of having the device ID stored on the BIOS provides the advantage of providing fast and easy access to the device ID because the BIOS is the used to control hardware and is the first firmware used when the activating the communication device. Further, the BIOS-ROM would maintain the information when power is removed.

It would have been obvious to one of ordinary skill in the art, having the teachings of Ha, Itoh and Ishibashi before them at the time the invention was made, to modify the BIOS-ROM of Ha to include storing the device ID.

One of ordinary skill in the art would have been motivated to make this modification in order provide easy access to the device ID. This would be especially true when modifying Ha because only the BIOS-ROM would need to be accessed when booting the computer rather than more than one other memory device holding the information reducing the number of reads during the process.

76. Regarding claim 60, Ha together with AAPA and Ishibashi taught the claimed method that uses the claimed apparatus therefore together they teach the claimed communications rack chassis.

77. Claims 51-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ha in further view Comer, "Computer Networks and Internets".

78. Regarding claim 51, Ha teaches a network system comprising a management device (Host computer figure 4), at least one communication device (PC1-PCn) and further comprising a boot PROM (BIOS ROM, figure 2), a communications interface (communications ports, figure 2), a device ID storage media (not explicitly shown but must exist to store model ID that is obtained from the communications device of Ha, col. 4, lines 50-53 and col. 5, lines 15-16). Ha further teaches a processor (CPU such as that of PC1, figure 4) coupled to the boot prom, the device ID storage media (necessary in order to obtain the device id), and the communications interface (logically coupled to the communications port through the RAM, figure 4). Ha also teaches where the processor utilizes a device ID (obtain a model ID, col. 4, lines 50-53 and col. 5, lines 15-16) read from the device ID storage media and routines from the boot PROM (during

a POST routine of the BIOS, col. 5, lines 5-11) to select and download a firmware program for the device through the communications interface (ports, figure 5).

Ha does not disclose wherein the communication device is an asymmetrical digital subscriber line (ADSL) communication device.

Comer teaches that an ADSL communication device would provide the advantage for typical users that receive more information than they send page 156, fourth and fifth paragraph, resulting in optimized data transfer.

It would have been obvious to one of ordinary skill in the art, having the teachings of Ha and Comer before them at the time the invention was made to modify Ha to use an ADSL communication device as his communication device.

One of ordinary skill in the art would have been motivated to make the modification in order to optimize data transfer for users that typically receive much more information than they receive resulting in optimized data transfer.

79. Regarding claim 52, Ha taught the communications device according to claim 51, as described above. Ha further teaches a RAM memory coupled to the processor, where the processor stores the downloaded firmware into the RAM memory. Specifically, Ha describes downloading firmware using a floppy disk, while the computer is normal operation, and while the computer is booting (col. 3, lines 46-64). Ha teaches that during the download of firmware from a floppy disk the firmware is downloaded into the RAM (main memory) of the communication device. Ha also describes that during a network download of firmware during a boot that firmware is downloaded into "memory" (col. 5, lines 17-19). Also, figure shows that the RAMs are the only memories of the communication devices (PC1-PCn) connected to the

communication port, implying that the RAM memories would receive the downloaded firmware. Thus, Ha teaches storing the download firmware into a RAM memory.

80. Regarding claim 53, Ha taught the device according to claim 51, as described above. Ha further taught a non-volatile machine usable storage media coupled to the processor where the processor stores the downloaded firmware (written into the BIOS ROM, col. 5, lines 20-24).

81. Regarding claim 54, Ha taught the device according to claim 51, as described above. Ha does not disclose wherein the device ID storage media is permanently attached to the communications device.

The examiner takes official notice that it is well known in the art for storage media to be attached to a device either permanently or by a method in which the storage media is not permanently attached (a removable media). The method of attaching a storage media would not affect the functionality of the storage media in the system. Attaching a boot PROM in a permanent fashion has the advantage of being physically tamper resistant.

It would have been obvious to one of ordinary skill having the teachings of Ha and the well known knowledge that storage media may be permanently attached before him a the time the invention was made, to modify the device ID storage media of Ha by permanently attaching the boot PROM to the communication device as is well known in the art.

One of ordinary skill in the art would have been motivated to make the modification in order to make the communication device tamper resistant.

82. Regarding claim 55, Ha taught the communications device of claim 51, as described above. Ha does not disclose wherein the boot PROM is permanently attached to the communications device.

The examiner takes official notice that it is well known in the art for a boot PROM to be attached to a device either permanently or by a method in which the boot PROM is not permanently attached. Attaching a boot PROM in a permanent fashion has the advantage of being physically tamper resistant.

It would have been obvious to one of ordinary skill having the teachings of Ha and the well known knowledge that a boot PROM may be permanently attached before him a the time the invention was made, to modify the boot PROM of Ha by permanently attaching the boot PROM to the communication device as is well known in the art.

One of ordinary skill in the art would have been motivated to make the modification in order to make the communication device tamper resistant.

83. Regarding claim 56, Ha taught the device according to claim 51, as described above. Ha further teaches wherein downloading firmware comprises downloading diagnostic software (BIOS is upgraded, col. 5, lines 17-24). Specifically, the BIOS is upgraded. BIOS contains a POST routine which is diagnostic software that tests a communication device.

84. Claims 34-37 and 39-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ha in further view Itoh and Comer, "Computer Networks and Internets".

85. Regarding claim 34, Ha teaches a method of operating a communication device with a boot PROM (BIOS ROM 12, figure 1), comprising initializing the communication device (general computer system, figures 1 and 2) from routines stored on the boot PROM (col. 5, lines 5-16). Ha also teaches reading a device ID indicating a model from the communication device (col. 5, lines 15-16). Ha also teaches sending the device ID to a management (host computer)

device over a communication link (col. 5, lines 15-16). Ha teaches selecting a firmware at the management device (col. 4, lines 54-57). Ha further teaches downloading the firmware to the communication device (col. 5, lines 17-19). Lastly, Ha teaches running the firmware on the communication device (by rebooting the computer, col. 5, lines 23-24).

Ha does not disclose wherein the device ID indicates a revision number from the communication device.

Itoh teaches wherein a device ID indicates a model number and a revision number (model number and version number of BIOS, col. 18, lines 36-42). The system of Itoh is similar to that of Ha in that Itoh also teaches a system that updates firmware for a particular device. As taught by Itoh using both the model number and revision number provides the advantage of determining if the of the firmware is necessary.

It would have been obvious to one of ordinary skill in the art, having the teachings of Ha and Itoh before them at the time the invention was made, to modify the device ID of Ha to include revision number to obtain a device ID indicating a model and a revision number as taught the by Itoh.

One of ordinary skill in the art would have been motivated to make this modification in order to determine to if the update is necessary.

Ha also does not disclose wherein the communication device is an asymmetrical digital subscriber line (ADSL) communication device.

Comer teaches that an ADSL communication device would provide the advantage for typical users that receive more information than they send page 156, fourth and fifth paragraph, resulting in optimized data transfer.

It would have been obvious to one of ordinary skill in the art, having the teachings of Ha and Comer before them at the time the invention was made to modify Ha to use an ADSL communication device as his communication device.

One of ordinary skill in the art would have been motivated to make the modification in order to optimize data transfer for users that typically receive much more information than they receive resulting in optimized data transfer.

86. Regarding claim 35, Ha together with Itoh and Comer taught the method according to claim 34 as described above. Ha further teaches storing the downloaded firmware into a RAM memory (col. 3, lines 58-64, col. 4, lines 57-63, col. 5, lines 18-24 and figure 4). Specifically, Ha describes downloading firmware using a floppy disk, while the computer is normal operation, and while the computer is booting. Ha teaches that during the download of firmware from a floppy disk the firmware is downloaded into the RAM of the communication device. Ha describes that during the download of firmware during a boot that firmware is downloaded into "memory". This memory is interpreted to be RAM memory because is not the BIOS ROM, no mention of using the system ROM 11 is suggested. Therefore, downloading software from any source in Ha would follow that the same procedure would be done as taught by the download using a floppy disk. Also, figure shows that the RAMs are the only memories of the communication devices (PC1-PCn) connected to the communication port, implying that the RAM memories would receive the downloaded firmware. Thus, Ha teaches storing the download firmware into a RAM memory.

87. Regarding claim 36, Ha together with Itoh and Comer taught the method according to claim 34 as described above. Ha further teaches storing the downloaded firmware into a non-volatile machine usable storage media (BIOS ROM, col. 5, lines 22-23).

88. Regarding claim 37, Ha together with Itoh and Comer taught the method according to claim 34, as described above. Itoh further teaches sending a version identifier of a stored firmware from a non-volatile machine usable storage media to the management device (version number is transmitted in order to receive a new BIOS, col. 18 lines 28-36).

89. Regarding claim 39, Ha together with Itoh and Comer taught the method according to claim 34, as described above. Ha teaches wherein the device ID identifies a model of the ADSL communication device (Ha, col. 5, lines 15-16) and Itoh teaches wherein a model and revision of the ADSL device (Itoh, col. 18, lines 36-42).

90. Regarding claim 40, Ha together with Itoh and Comer taught the method according to claim 34 as described above. Itoh further teaches wherein sending the device ID to a management device over a communications link further comprises sending the device ID and configuration information. Wherein a revision as disclosed by Itoh contains information a the configuration and is thus configuration information.

91. Claims 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ha, Itoh and Comer, "Computer Networks and Internets" in further view of Ishibashi.

Neither Ha nor Itoh nor Comer discloses wherein the boot PROM and device ID are stored on a single machine readable storage medium of the ADSL communication device.

Ishibashi teaches a device ID stored on a single machine readable storage media with the boot PROM (the device ID is stored on a machine readable storage media "BIOS-ROM" which is a boot PROM and managed by a BIOS, col. 6 lines 17-35 and figure 2). Ishibashi teaches a system that is similar to that of Ha in that both systems have a device ID and both use the boot PROM for some type of management of the device ID. It appears that the feature of having the device ID stored on the machine readable storage media provides the advantage of easy access to the device ID because the BIOS on the machine readable storage media is used to control hardware. Further, the machine readable storage media would maintain the information when power is removed.

It would have been obvious to one of ordinary skill in the art, having the teachings of Ha, Itoh and Ishibashi before them at the time the invention was made, to modify the boot Prom BIOS-ROM of Ha to include storing the device ID.

One of ordinary skill in the art would have been motivated to make this modification in order provide easy access to the device ID. This would be especially true when modifying Ha because only the boot PROM would need to be accessed when booting the computer rather than more than one other memory device holding the information reducing the number of reads during the process.

Conclusion

92. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

> U.S. Pat. No. 6,754,895 to Bartel et al. The patent teaches a method for automatic firmware updates in a portable hand-held device.

U.S. Pat. No. 6,205,548 to Hasbun. This patent teaches a method and apparatus for updating a non-volatile memory.

U.S. Pat. No. 6,026454 to Hauck et al. This patent teaches updating a BIOS with the newest version.

U.S. Pat. No. 5,964,873 to Choi. This patent teaches a method for updating firmware in a ROM BIOS.

U.S. Pat. No. 5,960,445 to Tamori et al. This patent teaches remotely updating BIOS in ROM.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James K. Trujillo whose telephone number is (571) 272-3677. The examiner can normally be reached on M-F (7:30 am - 5:00 pm) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne Browne can be reached on (571) 272-3670. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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James K. Trujillo
Patent Examiner
Technology Center 2100
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